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10/568,584	02/17/2006	Rudiger Sens	285229US2PCT	6493
22850 7590 10/20/2008 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER RAMDHANIE, BOBBY	
			ART UNIT	PAPER NUMBER
			1797	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/568,584	Applicant(s) SENS ET AL.	
	Examiner BOBBY RAMDHANIE	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 39 and 41-76 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 39 and 41-76 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 39-76 have been considered but are moot in view of the new ground(s) of rejection.
2. On Page 12 of the Remarks filed 06/19/2008; applicants state that Clark teaches away from using a mask and that the mask does not change such parameters (See Remarks Page 12, middle paragraph). There is no mention of a mask in this section. Further, applicants on the record state that "Clark clearly fails to teach or even suggest anything related to the use of a mask (See Page 12 Remarks, middle paragraph)." The argument is moot because, Clark can neither teach away from using a mask, nor that a mask does not change such parameters, if by applicants own admission that "Clark clearly fails to teach or even suggest anything related to the use of a mask."

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 39, 41, 42, 49, 52-56, 58, 61, 63, & 65 are rejected under 35 U.S.C. 102(b) as being anticipated by Fay et al (US4704033).
 5. Applicants' claims are toward a method.
- Regarding Claims 39, 41, 42, 49, 52-56, 58, 61, 63, & 65, Fay et al discloses the method for detecting change of a physically measurable property of a sample due to an

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environmental effect, comprising: A). Subjecting the sample to the environmental effect for an action time (See Summary of Invention - lasers and etching are "environmental effects," the environmental effect being made to act on the sample with a known position-dependent intensity distribution, which is based on a pattern function (See Column 2 lines 36-52, mask); B). Subsequently detecting transmission, reflection, or scattering of analysis radiation by the sample as a function of position coordinates of the sample and wavelength of the analysis radiation, so as to determine a response function that describes intensity of the transmitted, reflected, or scattered analysis radiation as a function of the position coordinates of the sample and the wavelength (See Column 1 lines 60-65; alignment system and etching); and C). Determining correlation of the known position-dependent intensity distribution of the environmental effect, or of the pattern function on which this is based, with the response function by correlation analysis, the correlation being a measure of the change of the physically measurable property of the sample due to the environmental effect wherein the environmental effect is made to act on the sample through a mask, which has a specific position-dependent transmission function, so as to produce the position-dependent intensity distribution as an image of the mask on the sample (See Column 2 lines 53-61; etching. Correlation analysis is inherent to the process to determine whether or not the etching has occurred and to what extent).

Additional Disclosures Included: Claim 41: Wherein the environmental effect includes action of radiation, and the intensity distribution is a position-dependent and wavelength-dependent intensity distribution (See Column 2 lines 53-61; etching); Claim

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42: The method as claimed in claim 39, wherein the environmental effect includes action of light (See Column 2 lines 54-58, etching the wafer target (i.e.- mask) is performed with the laser); Claim 49: The method as claimed in claim 39, wherein the environmental effect includes action of heat (the etching with the laser inherently includes heat); Claim 52: Wherein the intensity distribution is produced as a reference pattern on the sample (See Column 2 lines 54-58); Claim 54: Wherein exposure is carried out with artificial or natural sunlight (See Column 2 lines 54-61, alignment and etching is done with artificial light - laser); Claim 55: The method as claimed in claim 53, wherein the mask is a barcode mask (See Figure 1 See Mask – linear fresnel zone pattern may define a bar code); Claim 56: Wherein the intensity distribution is a periodic intensity distribution with a spatial frequency (See Column 2 lines 54-61 see spatial contrast); Claim 58: Wherein the transmission, reflection, or scattering of analysis light in UV-VIS and/or NIR ranges is determined (See Column 4 lines 45 & 60-62); Claim 61: Wherein the reflection of the analysis light is detected (See Abstract; return beams); Claim 63: Wherein the scattering of the analysis light is detected (See Column 4 lines 39-42, stray light may define a type of scattered light); and Claim 65: Wherein the reflection or scattering of the analysis light by the sample as a function of the position coordinates is detected using a color scanner (See Figure 1 Item 14, the light is detected by the scanner for alignment. It must be a color scanner because the lasers are of a visible light).

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Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 39 and 41-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richards et al (US20040110026) in view of Clark.

9. Applicants' claims are toward a method.

10. Regarding Claims 39 and 41-76, Richards et al discloses the method for detecting change of a physically measurable property of a sample due to an environmental effect, comprising: A). Subjecting the sample to the environmental effect for an action time (See [0021]); applying an electrical current to the sample qualifies as an environmental effect & [0024] curing which consists of an elevated temperature is also an environmental effect); B). Subsequently detecting transmission, reflection, or scattering of analysis radiation by the sample as a function of position coordinates of the sample and wavelength of the analysis radiation, so as to determine a response

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function that describes intensity of the transmitted, reflected, or scattered analysis radiation as a function of the position coordinates of the sample and the wavelength (See [0024]; visual, the detecting transmission, reflection, or scattering of analysis and wavelength of the analysis distribution may be of only two types - sunlight or artificial light which allows for visual detection); and C). Determining correlation of the known position-dependent intensity distribution of the environmental effect, or of the pattern function on which this is based, with the response function by correlation analysis, the correlation being a measure of the change of the physically measurable property of the sample due to the environmental effect wherein the environmental effect is made to act on the sample through a mask, which has a specific position-dependent transmission function, so as to produce the position- dependent intensity distribution as an image of the mask on the sample (See [0024] & [0025]). Richards et al does not disclose that the environmental effect is sunlight. Clark discloses a method for detecting change of a physically measurable property of a sample due to an environmental effect, comprising: A). Subjecting the sample to the environmental effect for an action time, the environmental effect being made to act on the sample with a known position-dependent intensity distribution, which is based on a pattern function (Abstract); B). Subsequently detecting transmission, reflection, or scattering of analysis radiation by the sample as a function of position coordinates of the sample and wavelength of the analysis radiation, so as to determine a response function that describes intensity of the transmitted, reflected, or scattered analysis radiation as a function of the position coordinates of the sample and the wavelength (Abstract); and C). Determining correlation of the known

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position-dependent intensity distribution of the environmental effect, or of the pattern function on which this is based, with the response function by correlation analysis, the correlation being a measure of the change of the physically measurable property of the sample due to the environmental effect (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Richards et al with the method of Clark because according to Richards et al, the clearcoat film layer optimizes appearance and durability of the overall EL coating system (See [0026]).

11. Additional Disclosures Included: Claim 41: Wherein the environmental effect includes action of radiation, and the intensity distribution is a position-dependent and wavelength-dependent intensity distribution (See Clark [0003]) & Abstract); Claim 42: Wherein the environmental effect includes action of light (See Clark [0002] & [0003]); Claim 43: Wherein the environmental effect includes action of mechanical forces (See Clark [0002] & [0003]); Claim 44: Wherein the environmental effect action of chemicals (See Clark [0002] & [0003]); Claim 45: Wherein the environmental effect includes action of gases (See Clark [0002] & [0003]); Claim 47: Wherein the environmental effect includes action of radioactive radiation (See Clark [0002] & [0003]); Claim 48: Wherein the environmental effect includes action of sound waves (See Clark [0002] & [0003] Examiner takes the position that sound waves are a physical degradation process); Claim 49: Wherein the environmental effect includes action of heat (See [0002] & [0003]); Claim 50: Wherein the environmental effect is caused by weathering of the sample (See [0002] & [0003]); Claim 51: Wherein the environmental effect is caused by

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application of chemicals to the sample; Claim 52: Wherein the intensity distribution is produced as a reference pattern on the sample (See Richards et al [0024]); Claim 53: Wherein the intensity distribution is produced by exposing the sample to light through the mask, which has a position-dependent and wavelength-dependent transmission function (See Richards et al [0024]); Claim 54: Wherein exposure is carried out with artificial or natural sunlight (See Clark [0001]); Claim 55: The method as claimed in claim 53, wherein the mask is a barcode mask (See Richards et al, [0024]); Claim 56: Wherein the intensity distribution is a periodic intensity distribution with a spatial frequency (See [0002] & [0003]. This is an inherent property of any analysis method where the analysis is performed using light); Claim 57: The method as claimed in claim 50, wherein the correlation analysis is a Fourier analysis (See Clark [0004]); Claim 58: Wherein the transmission, reflection, or scattering of analysis light in UV-VIS and/or NIR ranges is determined (See Clark [0004]); Claim 59: Wherein the transmission, reflection, or scattering of analysis radiation by the sample is determined for a plurality of wavelength ranges, so as to determine a plurality of response functions for the plurality of wavelength ranges (See Clark [0004] This is an inherent property of the operation of any instrument using Fourier transformation); Claim 60: Wherein a response function is respectively determined for red, green and blue light by RGB analysis (See Clark [0027] CCD cameras are capable of analyzing RGB colors); Claim 61: Wherein the reflection of the analysis light is detected (See Clark [0001]) The measurement of gloss is a definition of reflection & Richards et al [0006]); Claim 63: Wherein the scattering of the analysis light is detected (See Clark [0004]); Claim 64:

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The method as claimed in claim 63, wherein a confocal color measurement system is used for detection of the scattering (See Clark [0027] The Chemilume CL100 is a confocal color measurement system); Claim 66: Wherein the reflection or scattering of the analysis light by the sample as a function of the position coordinates is detected using a digital camera (See Clark [0027]); Claim 67: Wherein the response function is determined using a digital image processing electronics (See Clark [0027]); Claim 68: The method as claimed in claim 61 for determining the change of luster of a substrate surface (See [0001] Gloss defines luster); Claim 69: Wherein the substrate surface is a paint surface (See Clark [0030]); Claim 70: Wherein the paint is an automobile paint (See [0005]); Claim 71: The method as claimed in claim 63 for determining light fastness of colorants, or of substrates colored using the colorants (See Clark [0001]); Claim 72: The method as claimed in claim 39 for studying photoinduced or photo-oxidative aging of substances (See Clark [0027]); Claim 73: Wherein the substances are selected from plastics, optionally colored using colorants, paints, textiles, metals, paper, wooden articles, construction materials, and cosmetic formulations (See Clark [0001]); Claim 74: The method as claimed in claim 39 for studying weatherproofness of substances (See Clark [0001-0003]). Examiner takes the position that weatherproofness is defined by Clark et al as durability to withstand outdoor conditions); and Claim 75: The method as claimed in claim 39 for studying chemical stability of substances (See Clark [0001-0003] Examiner takes the position that the chemical stability is defined as durability).

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12. For Claim 46, Richards et al in combination with Clark discloses the method as claimed in claim 39, except for where the environmental effect includes action of microorganisms. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the testing of Clark et al to include microorganisms because they are found to effect changes on surfaces of almost everything found in the outdoor environment as well as have adapted to use paints and coatings as a food source.

13. For Claim 62, Richards et al in combination with Clark et al discloses the method of claim 61, except that using telecentric measurement optics are used for detection of the reflection. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Clark et al with a telecentric lens because it is well known in the art that the advantage of telecentric optics is that objects at various distances can be measured within a few thousandths of an inch, whereas this measurement could not be obtained with conventional optics.

14. For Claim 65, Clark et al teaches the method as claimed in claim 39 except wherein the reflection or scattering of the analysis light by the sample as a function of the position coordinates is detected using a color scanner. Clark et al does teach the use of analog devices or a CCD camera. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Clark et al to use a color scanner because a color scanner is an obvious variant of a CCD camera.

15. For Claim 76, the combination of Richards and Clark et al discloses the method as claimed in claim 39, except for studying abrasion resistance of coatings on a

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substrate. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Clark et al with studying abrasion resistance because it is well known in the art that chemical resistance is performed with rubbing Methyl Ethyl Ketone onto the surface of the paint and physical resistance is performed by exposure of coatings of Panels to direct sun, wind, and rain exposure as arrays of panels on rooftops. Examiner takes the position that wind and rain carry particles which would allow for abrasion to occur. In addition, Richards et al discloses the importance of the durability of the top coat of the coating system which enhances the EL layer (See Richards et al [0026]).

Telephonic Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BOBBY RAMDHANIE whose telephone number is (571)270-3240. The examiner can normally be reached on Mon-Fri 8-5 (Alt Fri off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Bobby Ramdhanie, Ph.D./
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